

EXHIBIT A

PROJECT NO.

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~~SECRET~~ Acid functionalization of SWNT.

5 Use. 70:30 HNO_3 : H_2SO_4

First filter SWNT from toluene \rightarrow by centrifuge in CH_3OH . (0.5 g).

10 Immerse the filtered SWNT in the acid mixture (0.5 gm in 200 ml)

Stir for 5 hours.

15 Filter the acid treated SWNT.

Dry in vacuum @ 10^{-5} Torr for 24 hrs.

20 Take about 0.22 gm of acid functionalized

SWNT + 1.5 gm octadecylamine (ODA).

heat the mixture between $90 - 100^\circ\text{C}$

25 for 96 hrs. + another 98 hrs.

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~~SECRET~~ Extraction of the ODA functionalized
SECRET.

- 1) Stop the reaction
- 2) Cool to room temp.
- 3) Add 200 ml EtOH to the reaction flask,
Stir for 30 min, & filter through 0.22 μ Teflon
- 4) Repeat step 3 (4 times).

The mass on the filter paper is
unreacted excess amine.

Now to the black solid in the ^{reaction} flask, add
300 ml of THF & stir overnight.

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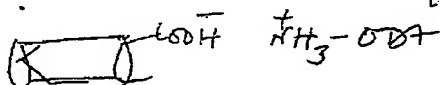
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 Add another 600 ml THF to the reaction flask, Stir for 1 hr & then stop stirring & let the mixture settle & sediment.

Black colored solution.

The solution should have functionalized

SiO₂NT



zwitter ion.